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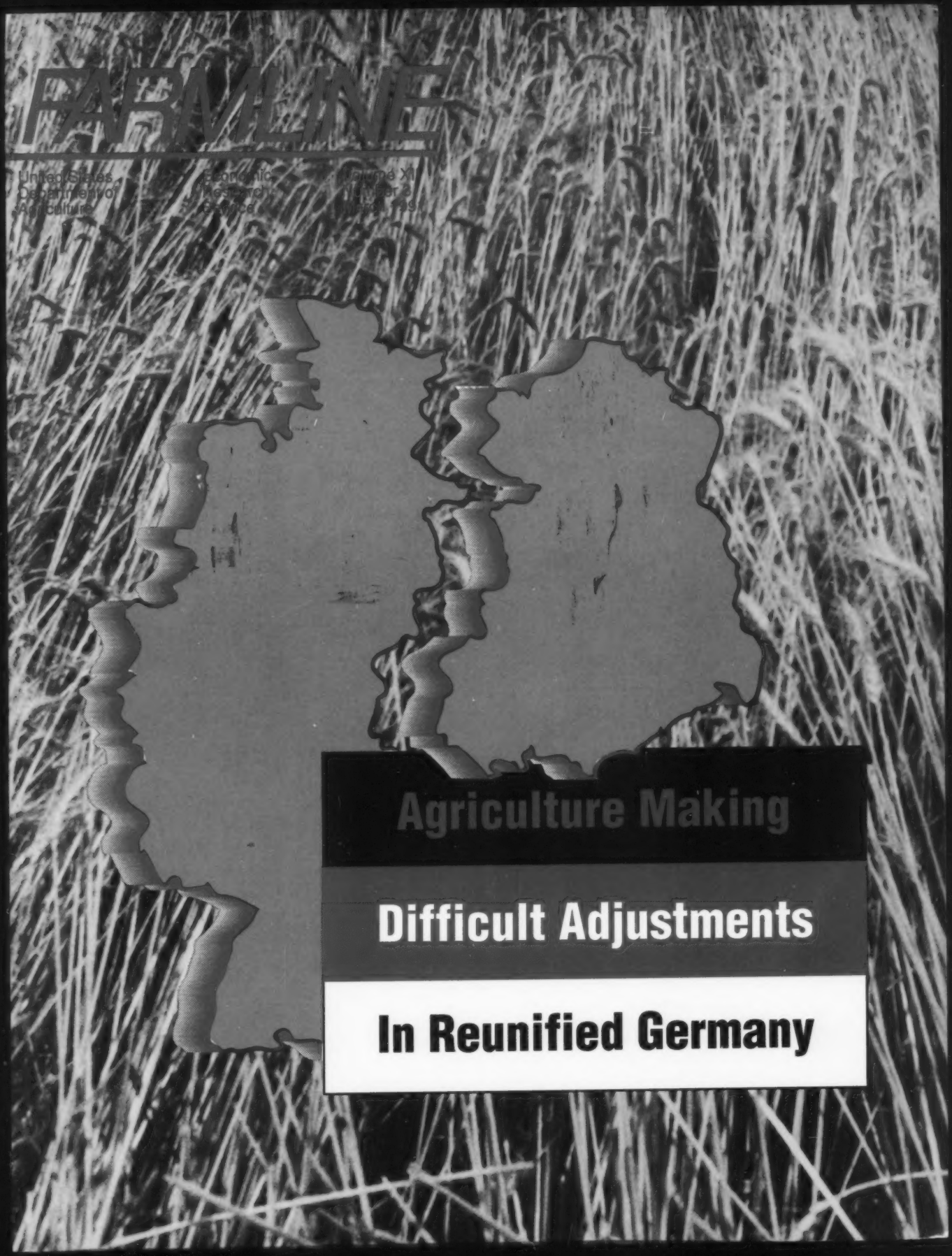

Agriculture Making Difficult Adjustments In Reunified Germany

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PERSPECTIVES

U.S. farmers intend to plant less wheat but more corn, cotton, soybeans, sorghum, rice, barley, oats, and sunflowers this year, according to a special USDA Planting Intentions survey. Wheat acreage, according to the survey, would be down by 8.7 million acres, an 11 percent decrease. Large supplies of wheat have been depressing prices. January 1991 Kansas City winter wheat prices were 35 percent lower than a year earlier.

Cotton provided the biggest surprise in the survey, according to USDA economists, with a 19-percent acreage increase indicated, from 12.4 million acres last year to 14.7 million. The National Cotton Council had said it expected 1991 acreage to be 13.9 million.

The USDA survey showed these planned increases in other crops: 4 percent for corn (3.3 million acres more), 1 percent for soybeans (705,000 acres), 19 percent for sorghum (nearly 2 million acres), 14 percent for oats (860,000 acres), 11 percent for barley (900,000 acres), 2 percent for rice (63,000 acres), and 36 percent for sunflowers (695,000 acres). The survey was conducted in January by USDA's National Agricultural Statistics Service (NASS). Regional and State estimates were not made, but will be included in the March Prospective Plantings survey to be published on March 28. A smaller sample of farmers was contacted in the special January survey. The earlier survey was conducted this year to determine how farm program changes are affecting farmers' decisions.

"Cotton prices have been substantially higher relative to other crops," says Economic Research Service cotton analyst Scott Sanford, "and that is an important factor as farmers make their planting decisions." January 1991 cotton prices were 17 percent higher than a year earlier. "Demand has been strong, both for U.S. exports and in domestic milling, and world production has fallen short of consumption for several years," Sanford says. Pacific Rim countries, led by China, account for much of the increase in foreign buying. The projected July U.S. carryover stocks of 2.3 million bales would be the lowest in 66 years, the economist says.

ERS feed grains analyst Larry Van Meir says the survey results on corn appear feasible. "The sorghum acreage was a little surprising," he says. "Some of the increase could be in flex acres from wheat," made possible by new provisions in federal farm programs.

Acres Planted and Intended to Be Planted

	1989	1990	1991	Change, 1990-91
	million acres			
Corn	72.2	74.2	77.5	+4%
Sorghum	12.6	10.5	12.5	+19%
Oats	6.9	5.9	6.8	+14%
Barley	9.1	8.2	9.1	+11%
All Wheat	76.6	77.3	68.6	-11%
Winter	55.1	57.0	51.0	-10%
Durum	3.8	3.6	3.6	+1%
Other Spring	17.7	16.7	14.0	-16%
Rice	2.7	2.9	2.9	+2%
Soybeans	60.8	57.8	58.5	+1%
Cotton	10.6	12.4	14.7	+18%
Sunflowers	1.8	1.9	2.6	+36%

— Jack Harrison

FARMLINE

AGRICULTURE...NATURAL RESOURCES...RURAL DEVELOPMENT
Practical economic intelligence from USDA's Economic Research Service

FEATURES

Germany's Agriculture Making Difficult Adjustments *by Carol Lee Morgan* 2

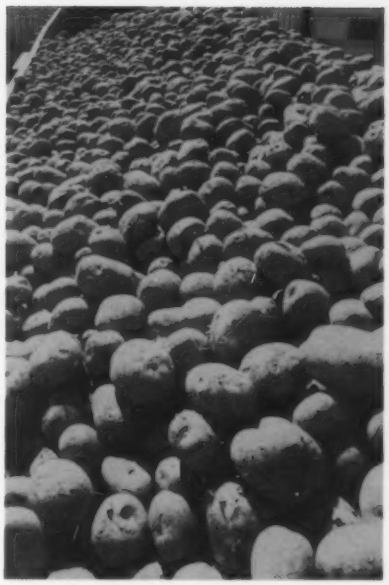
Germany has been reunified for just a few months and it will be a long time before all the adjustments, some costly and painful, are made. Agriculture, which differed substantially in the two separate Germanys that existed for several decades, is already undergoing big changes.

U.S., Australia Address Environmental Concerns *by Carol Lee Morgan* 6

Both the United States and Australia have been reevaluating their environmental policies, and agriculture is affected a great deal. Economists see both similarities and differences in the way the two nations approach public concerns about protection of natural resources.

Farm Bill of 1990 Includes Major Policy Changes *by Priscilla Glynn* 12

The 1990 farm bill makes major changes in policies affecting farmers, consumers, and the environment. The new law will be in effect for 5 years. It was immediately modified by the spending cuts contained in the federal deficit reduction agreement.



DEPARTMENTS

Agriculture Roundup: Vegetable Oils 18

Farmline Trends: Wheat Situation; Monthly Price Monitor 20

SPECIAL IN THIS ISSUE

North Carolina, Kentucky Are Leading Tobacco States 10

Americans may be smoking fewer cigarettes, but U.S. tobacco production, valued at $2.4 billion in 1990, is increasing. One reason is a rapid rise in exports. North Carolina is the leading tobacco state, followed by Kentucky. This latest installment in *FARMLINE's* series on major crops includes a map pinpointing the main tobacco-producing counties.

Germany's Agriculture Making Difficult Adjustments

The unification of West Germany and East Germany, which occurred about 5 months ago, will have profound effects on German agriculture, according to economist Mary Lisa Madell of USDA's Economic Research Service.

The considerable differences that existed in the structure of farming in the two countries before unification pose a number of economic, social, and political problems for the new, combined nation.

Many changes will be dictated by the standards of the European Community (EC) and its Common Agricultural Policy (CAP). West Germany has been a member of the EC since the EC was founded in 1957. In recent years the West German economy has been the strongest in the EC. And East Germany had the most vigorous economy in Eastern Europe.

The United States, as a result of German unification, stands to gain as well as lose export markets.

The United States stands to gain as well as lose export markets.

Unification has added to the Western world, as potential consumers and customers, 16.7 million former East Germans. The significantly larger West Germany, with 2.3 times the land area of East Germany, had a population of more than 60 million in 1989. East Germany's 1989 gross national product of $159 billion (estimated by the U.S. Central Intelligence Agency) was only 12 percent as large as West Germany's $1.33 trillion.

West Germany had agricultural exports of $16.9 billion and farm imports of $31.3 billion in 1989. Farm trade totals for East Germany were $540 million in exports and $2.2 billion in imports.

Adjustments a Challenge

Greatly varying traditions and policies in farm structure, land ownership, and farm size existed in the two Germanys, Madell says. Differences also were substantial in food consumption, farm production patterns, and environmental protection. Reconciling these differences will absorb much energy from both regions in the next decade, Madell believes.

West Germany had 665,517 farms, averaging about 44 acres in size. East Germany's collective structure of state and cooperative farms featured fewer and larger farms—4,574 farms averaging 3,336 acres each. The sizes of West Germany's primarily family farms vary considerably, with 30 percent 12 acres or smaller and only 9 percent larger than 247 acres.

Farming in East Germany accounted for about 10 percent of the GNP, compared to 2.1 percent in West Germany. Nearly 11 percent of East Germany's working population was engaged in agriculture, compared to only 4.2 percent in West Germany. More than half of the farmers in the region that was West Germany earn at least part of their income off the farm.

East German farmers, by contrast, are typically skilled in just one aspect of cooperative farming—such as dairy feeding or repairing machinery. Farms have been specialized as livestock or crop operations. Generally the livestock farms were overstocked, which caused problems in acquiring sufficient feed and in removing animal wastes. At times the wastes were transported long distances and were a threat to the environment.

The condition of agriculture in East Germany discouraged young people from becoming farmers, Madell says. About 40 percent of the 850,000 people employed in agriculture in East Germany were women, many elderly. Accurate statistics are not available, but Clemens Schwerdtfeger, an EC student intern, estimated in a May 1990 report to the EC's legislative body that 10 percent of the workers are of pensionable age (65 for men and 60 for women).

The Germanys at a Glance (1988)

	West Germany	*East Germany*
Population	61.1 mill	16.6 mill.
Urban Population	55.6 mill.	2.3 mill.
Population in Farming	5.4%	10%
Per Capita Income	$10,680	$9,203
Arable Land Area	73,284 ha	47,641 ha
Major Crops	Barley, oats, hops, potatoes, sugar beets, wheat	Wheat, barley, rye, potatoes, sugar beets, rapeseed
Major Livestock	Cattle, hogs, poultry	Cattle, hogs, sheep, poultry
Top Farm Exports	Beer, wine, wheat, canned fruits and vegetables	Sugar, grains, beer
Top Farm Imports	Fruits, vegetables, tropical prods., soybeans, tobacco	Cotton, oil meals and cakes, wheat, corn, coffee, meats
Farm Imports as Share of All Imports	13.4%	3%
U.S. Share of Farm Imports	1.5%	8.2%

Wheat and barley were the most important grains in both Germanys. East Germany produced comparatively more rye than West Germany but smaller proportions of oats and corn. Potato production was nearly twice as great in East Germany as in West Germany. Pork was the most important meat commodity in both areas, accounting for more than 60 percent of meat output.

Despite having better soils, East Germany's crop yields per acre were lower than West Germany's. The reasons included insufficient fertilizer, poor management, fields too large for efficient farming, poor quality seeds, and soil compaction caused by overly heavy equipment.

Agricultural Policies Changing

Crop yields should increase under unification, Madell says, because Western technology and business skills are now available to all of Germany. Within a short time, agriculture in the eastern part of the country will reflect decisions made by individual farmers instead of by government decree, and this should improve efficiency.

More wheat and barley will be grown and less of the lower yielding rye and oats, providing farmers with more income. And some land planted to potatoes is likely to be shifted to grains.

EC policies boosted West Germany's farm income. But the results have included commodity surpluses and burdensome government costs. The EC, including West Germany, has controlled production somewhat through such measures as land set-asides, a milk quota system, and maximum guaranteed quantities (MGQ) for cereals and oilseeds. West Germany also limited chemical inputs to protect the environment. The income support system encouraged marginal small farms to stay in operation.

In 1984, East Germany adjusted its prices of inputs, essentially removing subsidies to farmers, but raised producer prices. In the reform of January 1990, it realigned prices among commodities. It also sought to promote rural development by improving living conditions on farms. Farm earnings were used to boost government spending on rural schools, medical care, and cultural activities.

Madell believes that individuals whose land was taken by the East German government after 1949 will be allowed to reclaim their farms. Because of the uncertainty over the ultimate ownership of the land, western firms have been reluctant to enter into joint ventures with cooperative farms during the last few months.

As many as 400,000 farmers, or nearly half of the total in East Germany, could lose their jobs as a result of unification, Madell says. And the specialized skills of those farmers may not be in demand outside the farm sector. Also, some industries where they might work are collapsing.

The farmers fear losing job security and government benefits they enjoyed under the Communist system. Only 3.5 percent of the farmers who worked on collective farms want to farm privately, Madell says. Few have the money to start up farming on their own. Some could emigrate to other EC countries, Madell says.

It is estimated that the states included in the former East Germany will need as much as 627 billion Deutschemarks to modernize

their infrastructure. Private industry is likely to provide much of that, and outlays by the German government are expected to be substantial. "It will be difficult and expensive to upgrade East German agriculture," says Madell. "The distribution system for agricultural inputs, farm products, and foods is also inadequate."

Slaughterhouses in the area that was formerly East Germany will have to be improved because they do not meet EC standards. Ecology is a big issue in Germany. Environmental organizations such as the Green Party have gained political power and raised public concern about possible damage from farm chemicals. Measures to protect ground water are already in force. A Nature Protection Law is under debate.

Consumption Patterns Changing

West Germany amd East Germany had different food consumption patterns. East Germans consumed only half as much fruit but more than twice as many potatoes per person as West Germans (and more potatoes per capita than any other EC country). Cereal, eggs, butter, and milk were more important in the East German diet than the West German. West Germans consumed more coffee, tea, and wine than East Germans. Meat consumption and the proportions of pork, beef, poultry, and sheepmeat consumed were about the same for both countries. West Germans consumed an average of 3,476 calories per day and East Germans 3,795.

Because East Germany lacked the facilities to process foods, its imports of food and tobacco products from West Germany were more than 10 times as great as imports of raw agricultural products. East Germans had a limited selection of foods but already have begun diversifying their consumption. Imports of West German foods increased 80 percent in the first quarter of 1990.

Prices Being Adjusted

Even before unification, consumption patterns began changing because of increased availability of western products.

When the Deutschemark was introduced into East Germany, before unification occurred, the government put into effect a complicated system of import quotas and licenses as well as an intervention buying system, under which the government bought goods in order to maintain prices.

The West Germans feared an influx of agricultural products and the East Germans feared people would prefer to spend their money on West German products. The fears of both West and East were well grounded, Madell says. The government-run East German food processing and marketing operations had difficulty meeting market demand.

The East Germans, unfamiliar with selling on the free market or with the intervention system, and needing cash for inputs, accepted prices lower than those prevailing in West Germany. And in their frustration, they began "dumping" produce in the Soviet Union.

The quota and licensing system for controlling the flow of goods into East Germany was abolished 1 month after monetary union. Because the flow of goods between the two Germanys could not be isolated from the rest of the European Community, all EC quotas and levies on East German products were abolished. East Germany was also guaranteed free access to goods from the other countries in the EC.

By 1992 the CAP, the EC's farm policy, will be fully adopted in the unified Germany. Germany plans to enforce EC air and water standards in 1996. The EC probably will allow substantial German national subsidies for its eastern region, Madell says. The EC still has to decide what to do about the trading agreements East Germany had with other Eastern-bloc countries.

The EC will have to expand its budget to pay for increased price interventions, export refunds, and income payments. Some of the changes resulting from unification may result in increased tension in international agricultural trade, Madell says.

Some Market Opportunities

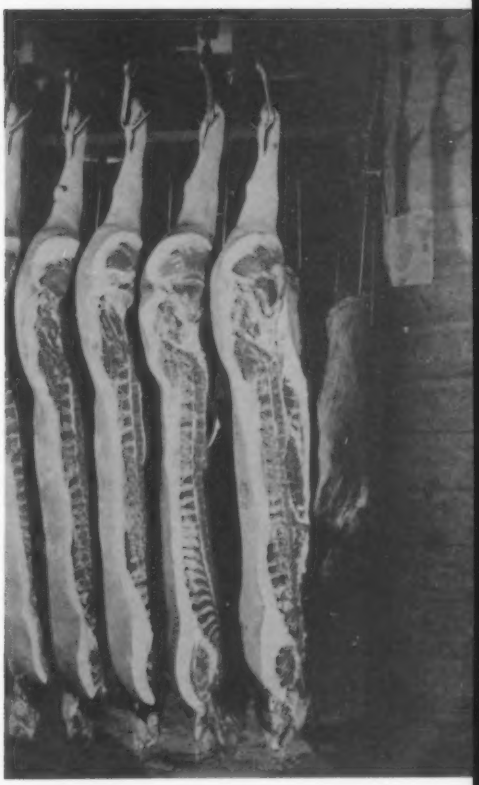
USDA's Foreign Agricultural Service predicts good opportunities for high-value processed products. The Eastern Germany area has a fledgling tourist industry and is committed to building new hotels and better restaurants. Eastern Germans are responsive to the idea of joint ventures. In both West and East, consulting firms are springing up to foster private sector enterprises in the East.

U.S. exporters of food ingredients and specialty items, including raisins, nuts and spices, should find markets in Eastern Germany. There will also be a market for citrus fruits and juices, candies, condiments, and wines and spirits.

1989 German Agricultural Imports From the United States

	West Germany	*East Germany*
	millions of dollars	
Tobacco	194.4	—
Soybeans	79.5	—
Tree nuts	152.9	—
Other fruits & vegs.	105.2	—
Cotton	123.9	0.8
Livestock products	54.2	1.5
Corn	43.1	39.9
Barley	—	7.6
Other	142.2	1.5
Total	**995.4**	**51.3**

Source: USDA's Foreign Agriculture Service.



One threat to U.S. exports could be an increase in grain production in Eastern Germany. This could depress world prices and hurt the export sales of U.S. grain. On the other hand, exporters of soybeans and products and nongrain feed ingredients stand to gain from German unification, USDA officials say.

The United States was the largest supplier of corn to East Germany, but that will change, Madell says. In 1989, imports of U.S. corn totaled 770,000 tons, or nearly 72 percent of that market. Under EC policies, Germany will not import U.S. corn.

U.S. traders must be creative as well as enterprising in seeking larger sales to Germany, according to Steven Yoder, who served as U.S. agricultural attache to East Germany from 1980 to 1984. He notes that the United States faces tough competition from within Germany as well as from other European countries.

Unification has already put pressure on farmers in both regions of Germany. The pressure on prices is likely to lead Germany to call for the end of the automatic price cuts that go into effect when the production ceiling, or MGQ, is reached, for the limiting of competing foodstuffs, and for the institution of national or regional production quotas. Eastern Germans are suffering a painful adjustment from a socialist to a free market economy, Madell says.

Increased supplies of Eastern German products have depressed prices. The EC may find the cost of export subsidies and CAP payments to farmers to be too burdensome, leading to greater pressures for agricultural reform, Madell says. The EC may experience tensions from its competitors when Eastern Germans try to sell commodities that are already in surplus on the world market.

Still other adjustments will have to be made in Germany if any trade liberalization agreement is reached under GATT, the General Agreement on Tariffs and Trade. □

[Based primarily on information provided by economist Mary Lisa Madell of the Agriculture and Trade Analysis Division, Economic Research Service.]

U.S., Australia Address Environmental Concerns In Different Ways

The United States and Australia are among the nations taking the lead in efforts to protect the environment. Although they differ in their approaches, both nations are seeking environmentally sound production technologies.

Policies are being reevaluated by both countries in this time of heightened public concern about the environment, according to economists Skip Hyberg of USDA's Economic Research Service and Sean Pascoe of the Australian Bureau of Agricultural and Resource Economics. Under an exchange program that has been in effect for several years, Hyberg worked in Australia from August 1989 to July 1990 and Pascoe was at ERS in Washington, D.C., during the 1990 calendar year.

Traditional agricultural methods can result in environmental damage, the economists note. Cultivation of crops can consume as well as alter natural resources, they say. Soil erosion is an example of how agricultural productivity can lead to environmental damage. Farmland runoff—from either irrigation or precipitation—can affect water quality by introducing sediment, fertilizer, and pesticide residues to surface water.

Nonfarmers in Australia are less likely than those in the U.S. to be affected by environmental problems.

In the last 20 years, according to Hyberg and Pascoe, increased concern for the environment in both the United States and Australia has been reflected in tighter regulations on discharges into air and water, more public funding of programs to monitor the environment, and expanding memberships in environmental organizations lobbying for change.

The countries differ, however, in political and agricultural systems, demographic characteristics, and available resources. The costs of environmental problems also differ, and the two governments have responded in different ways.

The United States has generally reacted more quickly than Australia, Hyberg and Pascoe say. The U.S. population is about 14 times that of Australia, so this country has a larger base of support for research and extension activities. It also depends more on inland waterways for domestic and

industrial water sources, transportation, and recreation.

The United States has deeper, more fertile soils, generally greater rainfall that is better distributed, and a more temperate climate than Australia. These advantages permit more versatile and intensive agriculture, Pascoe notes. The generally deeper U.S. soil means that the costs of soil loss are less than in Australia, in terms of productivity.

As a result of the denser population in the United States, water quality problems and other environmental damage are more likely to be felt by the nonfarmer than in Australia.

Costs Are Hard to Determine

The cost of environmental damage in either country is difficult to measure with any certainty. In the United States, the off-site costs from water-induced erosion have been estimated at between $6 billion and $20 billion annually, with about $10 billion being the most likely total, according to Pascoe. Agriculture is responsible for an estimated 53 percent of this erosion, he says.

On-site costs from water-induced soil erosion in U.S. farming are estimated to be about $600 million a year, or 6 percent of the off-site costs. These costs, however, could increase to over $4 billion a year over a century if erosion does not decrease and technology does not offset the declines in productivity, Pascoe says.

Wind erosion in the United States is estimated to cause about $4.7 billion in damage annually. On-site costs account for about 5 percent, or $224 million. Agriculture is responsible for about 61 percent of the total damage, according to Pascoe.

Off-site costs for wind and water erosion in Australia are much lower, probably between $20 million and $30 million a year, Hyberg says. Less cropland and less rainfall than the United States means much less soil loss in Australia. Further, the Australian population is less affected because most of the people live along the coast, away from the farmland, and rely less on inland water-

ways for recreation, transportation, and municipal and industrial uses.

On-site costs of erosion in Australia are probably much higher than the off-site costs. The fragile soils, plus slow regeneration rates, mean relatively high productivity reductions from soil erosion. In contrast, off-site costs are relatively small because fewer people are affected by soil erosion.

In Australia, farmers bear most of the soil erosion costs, about $260 million annually, through lost productivity and increased fertilizer expenditures, Hyberg says.

Avoiding contaminated water requires filtration, treatment, and monitoring of wells and public water supplies. Pascoe notes that a one-time effort to monitor contamination in the United States would cost between $1 and $2.5 billion with the best estimate of $1.4 billion.

Wells found to be contaminated would result in further costs—including installation of filtration equipment, drilling new, deeper wells, or connecting to an uncontaminated public supply. Some uncontaminated wells may need to be continually monitored.

Agricultural Policies

Both the United States and Australia have agrarian roots, have historically placed importance on food security, and have used agriculture to bolster rural communities. Government farm programs have changed economic incentives, which have influenced farmers to alter crop rotations and use of inputs, according to Pascoe and Hyberg. Such decisions have sometimes resulted in increased environmental damage.

Australian policies affecting agricultural commodity markets tend to be less direct than those of the United States. For instance, rather than using support prices to stabilize farm income, Australia uses state and national marketing boards for grains, wool, and livestock. The boards acquire the commodities from the farmers and handle the marketing.

Australian policies have focused on land use, tenure systems, and input subsidies. Although these policies do not directly affect commodity markets, they do have a substantial impact on agriculture and the environment, Hyberg says.

Australia's land settlement policies, for example, encouraged agricultural development. Encouraging cultivation of the land, Hyberg says, meant that native deep-rooted vegetation was removed and shallow-rooted crops and pasture put in, which exposed the soil to greater erosion as well as led to a rise in the water table. As the water rose, it carried salt, which intensified salinity in the soil. Also, in some instances, the introduced species could not survive the periodic droughts.

Another government land use policy was designed to establish farms of "an area sufficient to sustain a family in average seasons and conditions," according to Hyberg. Unfortunately, often the farms were too small to be operated efficiently, and many failed. Environmental damage on

In Australia, farmers bear most of the costs of soil erosion.

these farms tended to be greater than on larger ones, as farmers overstocked the land with animals in order to remain solvent.

Over the years, Australia also attempted to improve productivity by subsidizing such inputs as irrigation water and nitrogen and phosphate fertilizer. The subsidies lowered the cost of these inputs relative to land rental, labor, and other costs, Hyberg says. Shifting relative costs changed production practices, resulting in increased use of the subsidized inputs.

Hyberg estimates, for example, that the subsidy may have increased phosphate use 35 percent from 1969 to 1973. Soil acidity is associated with nitrogen and phosphate fertilizers so the subsidies contributed to the acidity problems that began to surface in the 1980's, Hyberg says. While fertilizer subsidies have ended, those for irrigation have continued, resulting in overuse of water and an increase in soil salinity, the economist says.

"Unlike those of Australia, the agricultural policies of the United States focus on prices," Pascoe says. The programs have increased production of some crops, by offering a minimum price and eliminating price risk, Pascoe says. Increased efficiency in the agricultural sector and expansion of the programs led to the need for supply controls. Under the 1985 farm legislation acreage reduction programs and the Conservation Reserve Program have been fairly successful in containing total production, Pascoe notes.

The programs induce farmers to change crops to take advantage of program prices. Further, because the acreage bases depend on the crop history of a particular farm, any reduction in the area planted to a program crop reduces that crop's acreage base. But the 1990 Farm Law reduces constraints on switching to different crops.

These factors serve to diminish the influence of the market, create incentives for the production of program commodities on marginal land, and induce more intensive production practices, Pascoe says. As production of many of these crops, such as corn and wheat, often involves potentially erosive cultivation methods and elevated chemical applications, the commodity program may be exacerbating agricultural damage to the environment, he adds.

Environmental Policies

The governmental programs in both countries have caused some environmental damage, Hyberg and Pascoe believe. But they add that attempts have been made to solve the problem.

Recent efforts in the United States to protect soil and water from erosion and pollution include the Conservation Reserve, Conservation Compliance, and Sodbuster provisions, all originating in the 1985 Food Security Act (FSA) and continued in the 1990 Food, Agriculture, Conservation and Trade Act (FACT), Pascoe says. Another law with similar goals is the Water Quality Act of 1987 (WQA).

The WQA permits State authorities to restrict land use and chemical applications on farms that contribute to nonpoint source (not traceable to a particular farm) water pollution problems.

U.S. agricultural commodity programs can have beneficial effects on the environment, Pascoe says, by offering inducements to participants to practice conservation. The farm legislation of 1985 and 1990 permits the government to reduce environmental degradation as well as provide farm income support. Program payments are made to farmers to support their income, but are also used to induce them to cooperate in environmental efforts.

The primary objective of the Acreage Reduction Program is to control agricultural production, but the cropland set-aside requirements also can have a conserving effect by reducing soil erosion and chemical applications on the unplanted acreage, Pascoe notes. The Sodbuster, Swampbuster, and Conservation Compliance provisions each use program payments to acquire environmental benefits by denying program eligibility to producers who drain wetlands, cultivate vulnerable, previously undisturbed soils, or use unapproved farm management plans on highly erodible soils.

Australia does not make direct payments to farmers, so the denial of benefits is not an option. Recent changes in regulations covering irrigation in Australia encourage more efficient practices and control saline effluent, Hyberg says. These modifications have often been in response to other concerns, but environmental considerations also played a role.

Despite their numerous differences, the two countries share some similarities in working to improve the environment. Both countries have encouraged soil conservation practices, Pascoe and Hyberg note. Soil conservation programs in both arose in the 1930's as knowledge of the effects of erosion on agricultural production became available. Both countries have encouraged soil conservation practices, Pascoe and Hyberg note. The extension and research efforts, cost-share programs (the government pays part of the costs), and tax subsidies included in the original programs were designed to address on-site damage. The intent of the research and extension activities in both countries is to increase the efficiency and competitiveness of agriculture, while minimizing the loss of future productivity and reducing damage to the environment.

Hyberg believes these activities can satisfy the policy objectives because both nations have modern, export-oriented agricultural sectors, well-developed research facilities, and communication systems capable of reaching a well-educated farm population.

In both countries, such structures as ponds, terraces, and contour banks have received up to 50 percent government cost-share subsidies, as well as preferential tax treatment. These programs have increased investment in soil conservation structures, but have been criticized as a substitute for better management practices, Pascoe says. He also notes that the cost-share programs may have merely resulted in the substitution of government funds for private investment.

The Outlook for the Future

To a significant degree, the environmental policies of each country offset the effect of past or current agricultural and rural policies. In a number of cases, the most effective environmental policy would be to terminate the agricultural or rural development programs contributing to environmental damage, the economists say. These programs often have strong support from powerful constituencies, however, so it is unlikely that they will be dismantled soon. More probably, these programs will be gradually reduced under pressure of growing environmental constituencies.

Over the last 20 years, better information on agriculture's off-site effects on the environment and increased concern about protecting natural resources have led to environmental provisions in farm policy. This trend occurred in the United States before it was seen in Australia, Hyberg notes.

The demand for more environmental protection is expected to continue to increase in both the United States and Australia. Australian environmental organizations are likely to mature and have more effect on future government policies, Hyberg says. The recent creation of the Resource Assessment Commission and the Murray Darling Basin Commission reflects both the growing influence of groups concerned about the environment and the government's attempts to address their demands, Hyberg says. □

[Based primarily on information provided by Skip Hyberg of USDA's Economic Research Service and Sean Pascoe of the Australian Bureau of Agricultural and Resource Economics.]

North Carolina and Kentucky Grow Two-Thirds of U.S. Tobacco

Tobacco's cash receipts of nearly $2.4 billion in 1990 ranked it sixth among U.S. field crops and twelfth among all farm commodities.

North Carolina accounted for nearly 40 percent of the crop (by value) and Kentucky about 27 percent. Four neighboring States of South Carolina, Virginia, Tennessee, and Georgia added another 27 percent. Tobacco is grown in 21 States.

Tobacco is a high-value crop, with large returns per acre. In 1989, producer receipts averaged $3,476 per acre.

U.S. consumption of cigarettes, the primary tobacco product, has declined by more than 12 percent in the last 5 years. Health concerns are a major reason. But other extremely important ones are rising prices and taxes. Still, smokers spent an estimated $44 billion on tobacco products in 1990, of which about 95 percent was for cigarettes.

Verner Grise, tobacco specialist with USDA's Economic Research Service, says that "a strong anti-smoking attitude may also be partially responsible for decreased consumption. No longer can a smoker light up a cigarette without feeling some pressure from non-smokers. Tough legislation concerning tobacco, including warning labels on tobacco products, also increases its negative image."

U.S. consumption of cigarettes peaked at 640 billion in 1981, 70 percent above the 1950 level. Per capita consumption increased until 1963, but has steadily declined since then and is now at its lowest level since 1942.

Tobacco production, however, is expected to about equal last year's higher level for two reasons. One is that excess supplies built up from 1981 to 1986 have been used up. Another is an increase in export demand, Grise says. The United States has a better quality, milder tasting tobacco that enables this country to effectively compete in the world market, even though we grow only 10 percent of the world's tobacco.

In 1985, U.S. cigarette exports totaled 59 billion, 29 percent below the 1981 peak of 83 billion. In 1990, the U.S. exported about 160 billion cigarettes and the total will likely increase further this year. Lowered trade barriers in Japan, Taiwan, and South Korea, the high quality of U.S. cigarettes, rising incomes in importing countries, and the weakening of the dollar are responsible for the increased exports. And the export picture seems to look better since the Soviet Union is expected to buy over 35 billion cigarettes over a 2-year period.

In the early 1900's a new blend of tobacco was produced which increased consumption and introduced many Americans to the cigarette. Tobacco acreage reached a record level of 2.12 million in 1930. Sixty years later, producers harvested only 727,000 acres.

Acreage has fluctuated over the years, but has mostly declined. It has been going up after a big drop between 1981 and 1986, when it declined to 582,000 acres.

U.S. tobacco growers average only 5 to 5.5 acres of tobacco per farm on 125,000 to 140,000 farms.

Tobacco yields have gone up from 1,292 pounds per acre in the early 1950's to 1,920 pounds in the 1980's to 2,214 pounds in 1990. Production in 1990 is projected at about 1.6 billion pounds, about the same as 1989's level.

—Martha Evans

Top 10 Tobacco States

	1988	1989	1990
	million pounds		
North Carolina	553	541	640
Kentucky	355	367	437
South Carolina	100	104	110
Virginia	92	94	109
Georgia	86	87	103
Tennessee	93	80	99
Ohio	14	16	21
Pennsylvania	18	18	20
Florida	17	18	19
Indiana	11	13	13
U.S. Total	1,370	1,367	1,607

Source: National Agricultural Statistics Service, USDA.

Tobacco Producing Counties in the U.S.

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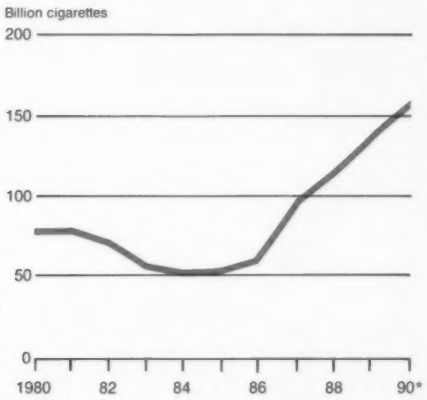
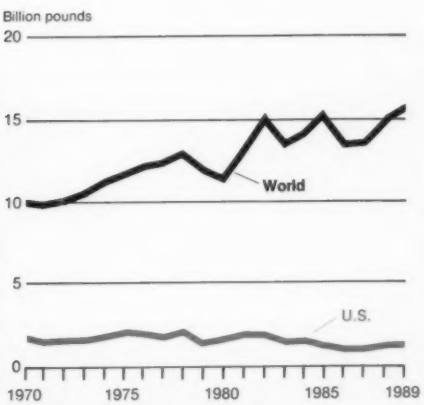
U.S. Cigarette Exports Have Been Rising Sharply

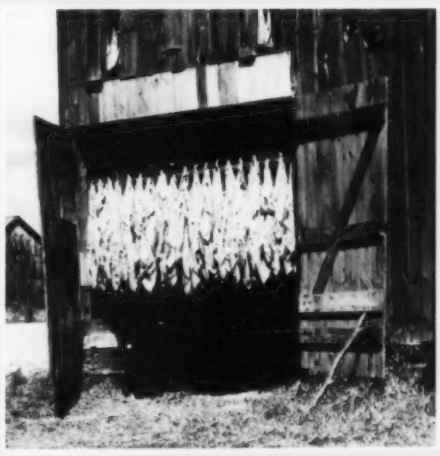


*Projected.

The U.S. Share of World Tobacco Production Has Been Falling



Source: Economic Research Service, USDA.



Farm Bill of 1990 Includes Major Policy Changes

On October 25, 1990, Congress passed a new 5-year farm bill which President Bush signed into law on November 28. Together with the agricultural appropriations act and the agricultural provisions of the Omnibus Budget Reconciliation Act of 1990, this bill, officially known as the Food, Agriculture, Conservation, and Trade Act of 1990 (commonly referred to as the 1990 farm bill or farm act), makes major changes in policies affecting farmers, consumers, and the environment.

Because trimming the Federal deficit assumed great importance in 1990, certain provisions of the budget reconciliation act were used to modify parts of the farm bill to achieve the spending reductions called for in the deficit reduction agreement.

"As amended by the budget reconciliation act, the 1990 farm bill cuts down on the number of acres for which farmers may receive deficiency payments, permits planting flexibility, and maintains the market-oriented loan rates introduced in the 1985 farm bill," explain economists Susan Pollack and Lori Lynch of USDA's Economic Research Service. "Over its 5-year life, the Congressional Budget Office and the Office of Management and Budget estimate the farm bill will cost over $40 billion in price and income supports, compared with an actual total cost of about $80 billion for the 1985 farm bill."

Minimum target prices will remain at 1990 levels.

The budget reconciliation act cuts more than $13 billion over 5 years from the projected costs of continuing programs under the 1985 bill, in part by imposing a mandatory 15-percent reduction in the amount of crop acreage base eligible for deficiency payments, and by placing assessments (fees) on sugar, peanuts, honey, wool, mohair, and tobacco.

The appropriations act provides $52.2 billion for agriculture and related agencies to operate during fiscal year 1991. The bill preserves full funding for the crop insurance program in 1991, enabling USDA to continue to offer farmers insurance policies against crop losses. However, the Department must alter the program so that the premiums farmers pay more truly reflect their risks. ERS economists note that these changes will raise premiums in certain regions and for certain crops, but not for others. Premiums may not be raised more than 20 percent from one year to the next.

The farm bill's new planting flexibility feature divides a producer's crop acreage base

Some 1991 Price Support and Payment Levels

Commodity	*Target Prices*	*Loan Levels*	*Deficiency Payments (estimated)*	*Advance Deficiency Payments (40%)*
Wheat	$4.00/bu.	$2.04	$1.47	58.8 cents
Corn	$2.75/bu.	$1.62	58 cents	23.2 cents
Sorghum	$2.61/bu.	$1.54	56 cents	22.4 cents
Barley	$2.36/bu.	$1.32	47 cents	12.4 cents
Oats	$1.45/bu.	83 cents	15 cents	6.0 cents
Upland cotton	72.9 cents/lb.	50.77 cents	10 cents	4.0 cents
ELS cotton	99.6 cents/lb.	82.99 cents	0	0
Soybeans	———	$5.02/bu	———	———
Other oilseeds	———	8.9 cents/lb.	———	———
Rye	———	$1.38/bu.	———	———
Honey	———	53.8 cents/lb.	———	———

Source: USDA Office of Public Affairs, December 31, 1990 news release.

into three categories: acreage planted to a program crop (wheat, feed grains, cotton, or rice) for which the farmer may receive deficiency payments, acreage idled under the Acreage Reduction Program (ARP), and flexible acreage equaling up to 25 percent of the crop base. "A farmer may plant any crop except fruits or vegetables on the flexible acreage without losing crop base," Pollack explains. "However, the Secretary of Agriculture may further limit the types of crops planted on the flexed acres."

Crops planted on the flexible acreage are eligible for nonrecourse and marketing loans. The budget reconciliation act requires that 15 percent of program participants' crop bases be flexed (called normal flex acreage). Producers cannot receive deficiency payments on this acreage.

Program crop producers also have the option of flexing another 10 percent of their bases (optional flex acres). Producers can receive deficiency payments on this acreage only if they plant the original program crop.

The 1990 farm legislation ties ARP requirements to a commodity's ending stocks-to-use ratio. The ARP for 1991 wheat has been set at 15 percent of base acreage, and the ARP for 1991 corn at 7.5 percent.

Annual program payments are limited to $50,000 in deficiency and paid land diversion payments, and $75,000 in gains realized from marketing loan, loan deficiency, and Findley payments (based on reduced loan rates) per person. In addition, a person may receive a maximum of $125,000 from interest in two other farming entities.

New Rural Agency Created

The 1990 farm bill consolidates USDA's rural development activities into a new Rural Development Agency and authorizes a pilot program using partnership-like revolving loans to finance economic development projects in rural communities.

In an effort to give them wider access to academic and scientific information, rural institutions such as schools and hospitals will be linked by telecommunications with their urban counterparts.

Another provision in the bill is aimed at protecting farmland from development by helping farmers stay in farming.

"The Food Stamp Program has been reauthorized along simpler lines," says ERS economist Lori Lynch, "with the goal of serving more homeless families." For example, authority to use food stamps in designated food kitchens and restaurants has been permanently extended. To make the program easier to use and to cut costs, the bill encourages the electronic transfer of benefits, in which program participants use cards resembling automatic teller machine cards to make their purchases. In addition, the bill stiffens the penalties for fraud and misuse of food stamps.

The farm bill increases funding for The Emergency Food Assistance Program (TEFAP, formerly the Temporary Emergency Food Assistance Program) from $120 million to $220 million per year and makes it a permanent program. It also reauthorizes the Commodity Supplemental Food Program.

Conservation Guidelines Toughened

The 1990 farm bill includes provisions designed to help farmers meet the Nation's changing conservation and environmental goals.

"Under revised sodbuster and swampbuster provisions, farmers participating in government programs who violate their stated conservation compliance plans, plant without a plan, or plant on wetlands will lose more program benefits than previously," ERS economist Lori Lynch reports.

However, in cases where a producer inadvertently drains a wetland, lesser fines ranging from $750 to $10,000 may be charged if the producer agrees to restore the wetland and has not violated the prohibition on draining wetlands in the previous 10 years. In addition, a producer will not be deprived of program benefits if he or she converts a wetland of minimal environmental value, or restores another wetland to its natural state. Similar provisions apply to sodbuster violations.

The bill creates a new Agricultural Resources Conservation Program (ARCP) to serve as an umbrella for the existing Conservation Reserve Program (CRP) and three new programs: the Wetlands Reserve Program (WRP), a Water Quality Incentives Program (WQIP), and an Environmental Easement Program.

"The ARCP broadens the CRP, giving it wider but more targeted eligibility criteria," Lynch explains. Total CRP acreage will be expanded to no less than 40 million nor more than 45 million acres by 1995 (including the 34 million acres already enrolled). Under the voluntary WRP, producers may enroll up to 1 million acres of wetlands into paid easements for 30 years or more.

Lynch explains that the WQIP's purpose is to help farmers prevent contamination of ground and surface water. It gives them the option of enrolling a total of 10 million acres between 1991 and 1995 in areas inhabited by threatened or endangered species, near wellheads, or where current agricultural practices could pose a threat to water supplies.

"The WQIP limits incentive payments to $3,500 per person per year and cost-sharing payments to $1,500—although producers whose efforts improve wildlife habitat may receive up to $1,500 more per year in cost sharing," notes Lynch. "In addition, the new bill also requires producers who are licensed to use restricted pesticides to keep records on their use."

The bill introduces a voluntary Integrated Farm Management Program to encourage producers to plant conserving crops such as grass, legumes, and trees. Participating farmers retain both program payments and crop base. Nationwide participation is limited to between 3 and 5 million acres of cropland from 1991 through 1995, and contracts will range from 3 to 5 years.

"And for the first time, the new farm bill includes a forestry title to protect and improve forest lands and encourage forestry in urban areas," Lynch reports. "It also creates the America the Beautiful Foundation to promote tree planting."

The bill contains provisions to expand research and extension activities to promote environmentally sound agricultural production, Lynch says. The bill designates $40 million (a tenfold increase over the 1985 bill) for research on low-input agriculture annually, $20 million for integrated resource management research, and $20 million for training and information transfer to farmers.

"In addition, the bill increases funding for USDA's competitive research grants from $70 million under the 1985 bill to $500 million by 1995," Lynch says, "and requires the Department to take environmental and nutritional considerations into account when awarding grants."

The bill establishes an Office of Environmental Quality within USDA to study the effects of agricultural programs on the environment and to coordinate and monitor attempts to enhance environmental quality. The bill also authorizes an effort to assess the effects of global climate change on agriculture.

"These provisions effectively cut the total payments an individual may receive in a single year from $500,000 under the 1985 farm bill to $250,000 under the new bill," Pollack states. Payments for producers of wool, mohair, and honey are limited to $200,000 per person for each program in 1991 and will be decreased to $125,000 by 1994.

The new farm bill sets minimum target prices for program crops at 1990 levels for 1991-95, arresting their downward trend under the 1985 farm bill. For 1991 through 1993, deficiency payments for wheat, feed grains, and rice will still be based on either the average market price for the first 5 months of the commodity marketing year or the loan rate, whichever is higher.

But in 1994 and 1995, deficiency payments for wheat and feed grains will be based on (1) the lesser of the average price for the entire marketing year or the 5-month price plus 10 cents for wheat or 7 cents for feed grains, or (2) the loan rate, if it is higher than the market price. Similarly, deficiency payments for rice will be calculated using (1) the lesser of the average price for the calendar year or the 5-month price plus an amount that is fair and reasonable compared with wheat and feed grain prices, or (2) the loan rate, if it exceeds the market price.

Because winter wheat farmers had already planted their 1991 crop before the legislation passed, they have the option of not collecting deficiency payments on the 15 percent of their acreage that they would normally be required to flex, or receiving payments based on (1) the lower of the 5-month average price plus 10 cents or the 12-month average, or (2) the loan rate, if it is higher than the market price.

Nonrecourse loan rates for wheat and feed grains will be set at 85 percent of the average market price of the previous 5 years, excluding the highest and lowest years. Under the 1985 farm bill, loan rates ranged from 75 to 85 percent.

The Secretary has the authority to impose additional loan rate reductions when this is deemed necessary to maintain U.S. competitiveness in world markets. But overall, Pollack anticipates that loan rates under the 1990 legislation will likely be higher than they would be if the loan rate formulas of the 1985 bill were still used.

Nonrecourse loans for upland cotton and rice will be calculated the same way as in the 1985 farm bill. Cotton and rice loan rates cannot be reduced by more than 5 percent from the preceding year, and the absolute minimum prices of 50 cents per pound for cotton and $6.50 per hundredweight (cwt) for rice will continue. The marketing loans for cotton and rice also remain unchanged.

In a major departure from the 1985 bill, the new legislation provides marketing loans for minor oilseeds as well as soybeans. The marketing loan rates are set at $5.02 per bushel for soybeans, and 8.9 cents per pound for canola, sunflowerseed, rapeseed, flax seed, mustard seed, and safflower. The Secretary may also include other oilseeds if necessary.

Major Crop Program Provisions of the 1990 Farm Bill

Crop	*Deficiency Payment Basis* [1]	*Nonrecourse Loan Rates* [2]	*Acreage Reduction Program*	*Paid Land Diversion*	*Marketing Loans*
Wheat	1991-93 crop years: 5-mo. avg. of market prices 1994-95 crop years: the lesser of 12-mo. avg. price, *or* 5-mo. price + 10 cents	Set at 85% of 5-yr. moving avg. of market prices, dropping high & low years; adjusted (Findley) rates based on stocks-to-use formula: Stocks/use — Reduction 30% or more — up to 10% 15-30% — up to 5% below 15% — 0%	Determined by ending stocks-to-use ratios, set at 15% for 1991 crop: Stocks/use — ARP above 40% — 10-20% 40% or less — 0-15%	Authorized	Permitted at Secretary's discretion
Corn	1991-93 crop years: 5-mo. avg. of market prices 1994-95 crop years: the lesser of 12-mo. avg. price, *or* 5-mo. price + 7 cents	Set at 85% of 5-yr. moving avg. of market prices, dropping high & low years; adjusted (Findley) rates based on stocks-to-use formula: Stocks/use — Reduction 25% or more — up to 10% 12.5-25% — up to 5% below 12.5% — 0%	Determined by ending stocks-to-use ratios, set at 7.5% for 1991 crop: Stocks/use — ARP above 25% — 10-20% 25% or less — 0-12.5%	Authorized	Permitted at Secretary's discretion
Sorghum	Same as corn	85% of 5-yr. moving avg. of market prices, dropping high & low years; adjusted (Findley) rates based on stocks-to-use formula	Determined by ending stocks-to-use ratios	Authorized	Permitted at Secretary's discretion
Barley	Same as corn, but based on feed barley rather than all barley	85% of 5-yr. moving avg. of market prices, dropping high & low years; adjusted (Findley) rates based on stocks-to-use formula	Determined by ending stocks-to-use ratios	Authorized	Permitted at Secretary's discretion
Oats	Same as corn	85% of 5-yr. moving avg. of market prices, dropping high & low years; adjusted (Findley) rates based on stocks-to-use formula	Determined by ending stocks-to-use ratios	Authorized	Permitted at Secretary's discretion
Upland cotton	12-mo. avg. price	50 cents/lb., minimum	25%, maximum; Secretary encouraged to operate ARP & other programs to achieve ending stocks-to-use ratio of 30%	Secretary must offer a PLD with payment of no less than 35 cents/lb. if a carryover of over 8 million bales projected	Mandatory; producers can repay loans at the lower of prevailing world price or announced loan rate
Rice	1991-93 crop years: 5-mo. avg. of market prices 1994-95 crop years: the lesser of 12-mo. avg. price, *or* 5-mo. avg. price + amount deemed fair in relation to wheat & feed grains	$6.50/cwt, minimum	35%, maximum; Secretary encouraged to operate ARP & other programs to achieve ending stocks-to-use ratio of 16.5-20%		Mandatory; producers can repay loans at the lower of prevailing world price or announced loan rate

[1] Deficiency payments are based on the market price when that price exceeds the nonrecourse loan rate. [2] In addition to initial reductions in nonrecourse loan rates for wheat and feed grains based on stocks-to-use ratios, the Secretary has the authority to trim these loan rates by another 10 percent.

Source: Lori M. Lynch and Susan L. Pollack, Agriculture and Trade Analysis Division, ERS.

"To help trim the budget deficit, oilseed producers receiving marketing loans will be charged a 2-percent loan origination fee," explains Pollack. "So, in the case of soybeans, producers will realize only $4.92 per bushel, although they must pay interest on the nominal $5.02 loan rate."

For 1991-95, the new farm bill establishes a dairy price support floor of $10.10 per cwt for milk containing 3.67 percent milkfat. To trim the deficit, the budget reconciliation act reduces the price received by milk producers by 5 cents per cwt in 1991 and 11.25 cents per cwt for 1992-95. The reductions will be refunded to producers who do not boost output from the previous year.

The Secretary must provide Congress with options to curtail growth in Government purchases of dairy products. However, the bill specifically prohibits cattle slaughter and price support cuts below the $10.10 floor as possible ways to accomplish this.

The legislation reauthorizes price support programs for peanuts, wool and mohair, and honey, with some minor changes. It establishes assessments of 1 percent of loan rates for peanuts, honey, and tobacco, and deductions of 1 percent from wool and mohair incentive payments.

"For sugar, the new farm bill includes program provisions mandating that marketing controls be imposed if USDA forecasts that imports will fall below 1.25 million short tons (raw value)," Pollack observes. The budget reconciliation act requires a marketing assessment on sugar for the 1991-95 crops. Processors of sugarcane and sugarbeets shall pay the Commodity Credit Corporation nonrefundable assessments of 1 percent of the value of the raw cane and beet sugar they process. □

[Based primarily on information provided by economists Susan L. Pollack and Lori M. Lynch of the Agriculture and Trade Analysis Division, Economic Research Service.]

Farm bill places new emphasis on wetlands conservation.

Trade Programs Are Continued

The United States will continue to use the Export Enhancement Program (EEP) to counter unfair trade practices abroad and to make U.S. commodities available at competitive prices on the world market. The appropriations act caps EEP funding for fiscal year 1991 at $425 million.

The Market Promotion Program (MPP, formerly Targeted Export Assistance) will be expanded to more effectively promote general exports and deal with unfair trade practices cited against other countries, ERS economists Susan Pollack and Lori Lynch point out. The appropriations act limits MPP funding to $175 million for fiscal year 1991. The farm bill sets minimum export credit guarantees under GSM-102 at $5 billion a year, and those under GSM-103 at $500 million.

The ERS analysts point out that the operations of the Food for Peace Program, commonly known as P.L. 480, have been streamlined to smooth delivery of food aid to needy countries. USDA has been given primary responsibility for the concessional sales program, and the Agency for International Development has been assigned responsibility for Federal food aid programs. The program also gives least developed countries the highest priority, so that P.L. 480 commodities will go to places with the greatest need.

The reconciliation act also contains a "GATT trigger" in the event an agreement on agricultural trade reform is not reached during the Uruguay Round. This trigger authorizes changes in domestic price and income supports and export programs.

For example, if an agreement has not been reached by June 30, 1992, the Secretary of Agriculture must offer an additional $1 billion in export subsidies and institute a marketing loan for wheat and feed grains, allowing producers to repay their loans at world market prices. The Secretary could also waive the minimum ARP levels for any of the 1993-95 crops of wheat, feed grains, upland cotton, or rice. However, the economists note that the Secretary's authority to take these steps would be rescinded if the President certifies that no agreement was reached because "fast track" authority (whereby Congress must accept or reject the treaty as a whole) was not available.

If no agreement has been reached by June 30, 1993, the Secretary may waive all or part of the requirements of the reconciliation act that call for cuts in agricultural spending.

Fast-Food Restaurants Switch to Vegetable Oils

The switch from beef tallow to vegetable oils for cooking french fries, announced last summer by three of the largest fast-food restaurant chains, should not cause major changes in the fats and oils industry—just reshuffle it a bit.

Wendy's uses 100 percent corn oil for cooking its fries, since the beginning of 1991, says a spokesperson for the chain. McDonald's now uses a blend of corn oil and cottonseed oil for all of its fried products. Before last summer's switch, McDonald's french fries were cooked in a blend of beef tallow, corn oil, and cottonseed oil.

Burger King, the other major chain, switched from an animal-vegetable shortening to a soybean oil-cottonseed oil blend for its french fries. All of its other fried foods are cooked in soybean oil.

USDA's Economic Research Service estimates that the switch to vegetable oils by the fast-food chains will realign the demand for the cooking oils by about 250 million pounds. The demand for corn oil will shift by about 150 million pounds, and cottonseed and soybean oil by 50 million pounds each. The abundant supply of soy oil should accommodate the fats and oils customers squeezed out of the corn oil supply by the fast-food chains, says ERS economist James Schaub.

The loser, edible beef tallow, can be converted to inedible industrial uses. In addition, exports of tallow have increased.

The move to vegetable oils was in response to consumer concerns about saturated fat in foods. Most fast-food chains were cooking their french fries primarily in beef tallow. Beef tallow gives french fries their familiar, desirable taste, and costs food processors considerably less than vegetable oils—about 14 cents per pound compared with the increased-demand cost of soybean oil, 21 to 24 cents; cottonseed oil, 22 to 25 cents; and corn oil, 24 to 27 cents per pound.

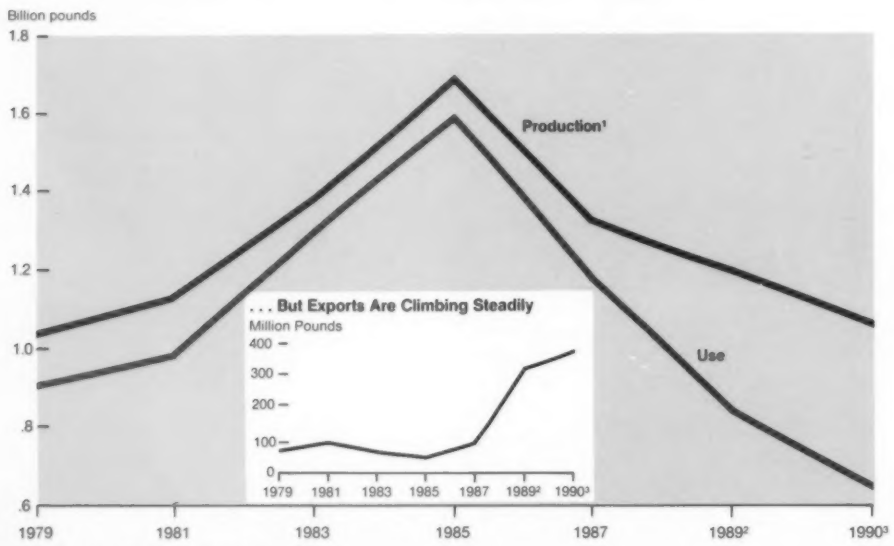
In addition to giving fried foods their familiar good taste, beef tallow is durable in fat fryers. But unfortunately, it's high in saturated fat, a current health-conscious consumer concern. Nutrition data from each of the three fast-food companies indicate that the change in frying fats reduces the saturated fat content of their french fries by about 50 percent.

Americans' average fat intake, expressed as the proportion of calories provided by fat, fell from 41.8 percent in 1977 to 37.3 percent in 1985. Despite this reduction, fat intake remains above the level (no more than 30 percent) recommended by the National Research Council of the National Academy of Sciences and the American Heart Association.

Corn oil is the big winner in the changeover. What makes corn oil so attractive to the industry is that it has frying properties that work, especially when blended with cottonseed oil. Schaub says, "fries cooked in corn oil, or especially in a blend of corn oil and cottonseed oil, have good color and appearance, and a desirable taste." (The chains ran taste tests before they switched.) And the corn-cottonseed oil blend holds its desirable cooking properties longer in the fryers.

But corn is not grown for its oil. Oil is a byproduct of corn milling, primarily for high fruc-

Domestic Production and Use of Edible Beef Tallow Are On a Downtrend . . .



¹Includes stocks. ²Preliminary and estimated. ³Forecast.

tose corn syrup (HFCS, a sweetener), and the manufacture of ethanol, so its supply does not respond to vegetable oil prices. The supply of corn oil depends on the demand for HFCS, and food and industrial uses for milled corn, says Schaub.

ERS forecasts slightly higher uses for the food and industrial uses of corn in 1990-91. Corn oil production is forecast at 1.45 billion pounds, up from 1.42 billion estimated for 1989-90. Domestic use for corn oil is forecast at 1.06 billion pounds in 1990-91, up from 1.02 billion pounds last year. About 400 million pounds are exported. Last year Saudi Arabia was the single largest importer of U.S. corn oil.

Cottonseed has become a less important source of oil. It used to be the dominant vegetable oil in the United States until the period of World War II. After that time, it lost its market share to soybean oil.

ERS forecasts larger supplies, stronger demand, and marginally higher prices for cottonseed, its meal, and its oil, for 1990-91. Preliminary estimates show cottonseed production in 1990 was 5.80 million tons, up more than a million tons from last year. Underlying the increase was a rise in harvested area to 11.5 million acres. The 1990-91 crush is forecast at 3.7 million tons, well above last season's 2.97 million tons. Domestic use for cottonseed oil is forecast at 900 million pounds. Increased demand from the fast-food market for cottonseed oil, the strongest since 1973-74, could lead to more crushing, and possibly the reopening of cottonseed oil mills if they could successfully bid for more seed, says Schaub.

Cottonseed oil is the latest of the oils to receive export help from the Federal Government. The Cottonseed Oil Assistance Program (COAP), started in April 1989, made its first sale in 1990. Egypt purchased 14,000 tons. Although COAP could increase U.S. cottonseed oil exports, they are expected to remain at 154,000 metric tons in 1990-91 as increased domestic demand offsets a rise in production. Other oils have been receiving direct or indirect export help from the Government through commodity and other programs.

Soybean oil is the most abundant of the three vegetable oils that the fast-food restaurants have switched to. Soybean oil is a joint product of soybeans which are primarily used for meal and oil. One-third of its value is oil. Schaub says that soybean oil is likely to fill the void in products that compete with the fast-food restaurants for the corn oil market. The exceptions, of course, are the products that are labeled primarily corn oil. Because the 50-million-pound increased use from fast-food restaurants is less than half a percent of current use, ERS estimates that the price should go up less than a half-cent per pound.

U.S. soybean production was 1.90 billion bushels for the 1990 crop year, down just 20 million bushels from 1989.

Saturated Fat Levels Vary Significantly

1 Tablespoon of the Following Fats and Oils Contains:

	Saturated fat	Polyunsaturated fat	Monounsaturated fat
	grams		
Beef tallow[1]	6.4	0.5	5.3
Beef tallow & cottonseed shortening for frying[1]	5.7	1.1	4.9
Coconut oil[3]	11.8	0.2	0.8
Corn oil[3]	1.7	8.0	3.3
Cottonseed oil[3]	3.5	7.1	2.4
Olive oil[2]	1.8	1.1	9.9
Palm oil[3]	6.7	1.3	5.0
Peanut oil[2]	2.3	4.3	6.2
Rapeseed oil[3]	0.9	4.5	7.6
Safflower oil[3]	1.2	10.1	1.6
Partially hydrogenated Soy oil[3]	2.0	5.1	5.9
Sunflower oil[3]	1.4	8.9	2.7

[1] 12.8 grams/Tbsp. [2] 13.5 grams/Tbsp. [3] 13.6 grams/Tbsp.
Source: Science and Education Administration, USDA.

Domestic use of soybean oil in 1990-91 is expected to be 12 billion pounds, about 50 million pounds more than before the fast-food restaurants' switch.

Beef tallow has a two-channel market—the edible for frying fat, and the inedible for industrial uses, such as soap—so the change in fast-food restaurant demand should not be painful.

Schaub says that adjustments in the edible tallow market will include an increase in exports and a diversion from edible to inedible uses, such as displacing a small amount of tropical oils used in soap. Exports of edible tallow have climbed steadily and are forecast to total 375 million pounds in 1990-91, from 324 million pounds in 1989-90 and 240 million in 1988-89. Most U.S. exports of animal fats went to Mexico. Because of these alternative uses, edible tallow prices probably won't fall more than 1 to 2 cents per pound.

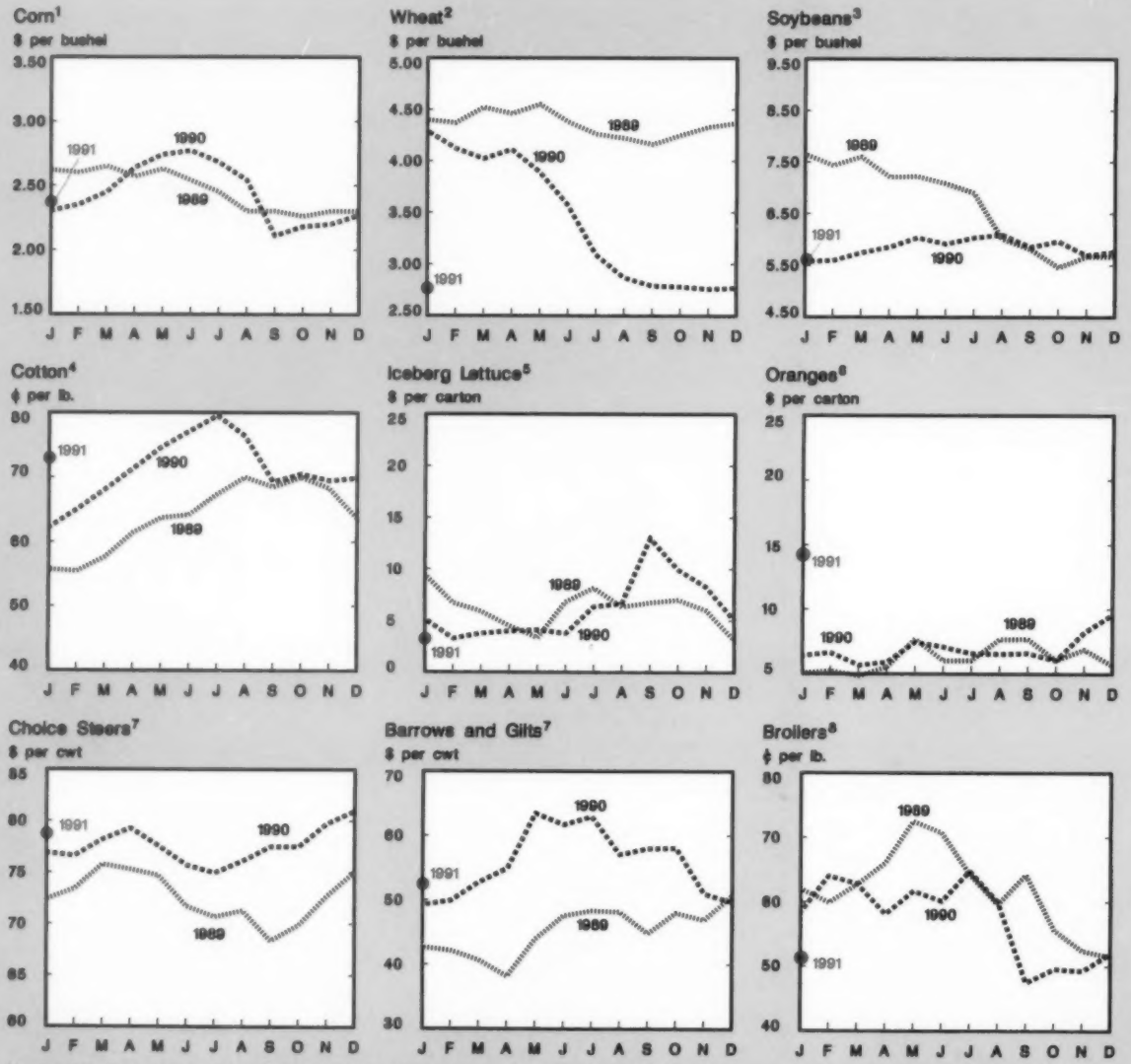
Substituting vegetable oils for beef tallow reduces domestic use of tallow to about 650 million pounds, compared with 841 million in 1989-90. But this continues a downtrend. As recently as 1985-86, domestic use was nearly 1.6 billion pounds. McDonald's, Burger King, and Wendy's accounted for about 30 percent of the edible tallow market.

— Judith Foulke

FARMLINE TRENDS

Monthly Price Monitor

USDA's January 1991 inflation-adjusted index of farm prices increased 0.7% from December but was 6.5% below its year-earlier level. Corn gained 10¢ to $2.37 per bushel, the highest since August. Soybeans lost 15¢ to $5.61 per bushel, the lowest in 11 months. Wheat remained at $2.77 per bushel. Cotton rose 3¢ to 72.9¢ per pound. Iceberg lettuce lost $1.76 to $3.25 a carton. California oranges were at $14.32 a carton, up substantially from $9.60 in December. In the meat animals area, choice steers fell $2.15 to $78.83 per cwt, the first downturn in 6 months, and barrows and gilts rose $2.93 to $52.63 per cwt. Broilers fell a half-cent to 51.5¢ per pound.



[1]No. 2 yellow, Central Illinois. [2]No. 1 HRW, Kansas City. [3]No. 1 yellow, Central Illinois. [4]SLM 1-1/16", spot market price. [5]Standard carton 24's, California-Arizona. [6]Central California, Standard carton. [7]Omaha. [8]Wholesale, New York. All prices shown are monthly averages.

World Wheat Situation: Abundant Supplies, Reduced Demand, Lower Prices

Data and analysis provided by economist Sara Schwartz of the Commodity Economics Division, Economic Research Service

World wheat production is surging in crop year 1990/91, and favorable weather conditions are expected to lead to record or near-record output in many countries. These large crops—for importers as well as major exporters—have pushed global ending stocks to a projected 144.17 million metric tons, up 27.02 million from the previous year.

A slight decline in world trade is expected to result from the large supplies. The United States' two largest customers, China and the Soviet Union, have brought in bumper crops and have little cash to spend on foreign wheat. The United States has offered the USSR $500 million to $1 billion in export credit guarantees to purchase U.S. agricultural commodities. On the other hand, the U.N. embargo against Iraq has meant the loss of one of the larger U.S. wheat markets.

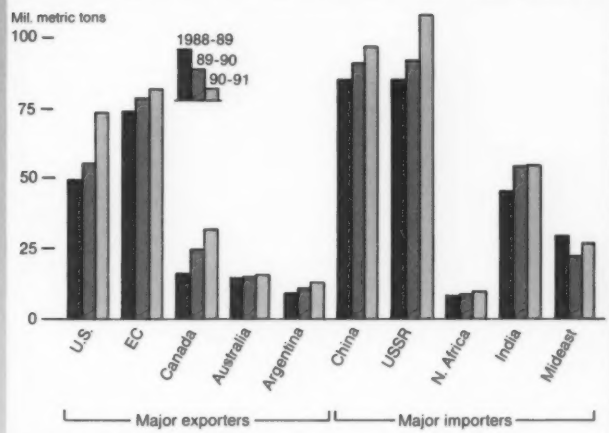
U.S. wheat production is forecast to reach 74.67 million metric tons. With total exports of only 29.26 million metric tons between June 1990 and May 1991 (down 4.3 million from a year earlier), ending stocks could surge to 25.5 million tons, up nearly 57 percent from 1989/90.

U.S. wheat production in 1991 is likely to drop significantly, due to a higher Acreage Reduction Program level and lower prices for wheat than for other crops. Some foreign producers also may be discouraged from planting wheat because of their large 1990/90 crops and considerably lower export prices.

However, several major producers—such as the European Community, the Soviet Union, and China—are not very responsive to world price movements. And although producers in Canada, Argentina, and Australia are usually more responsive, how much wheat they will plant depends on the relative prices of other commodities.

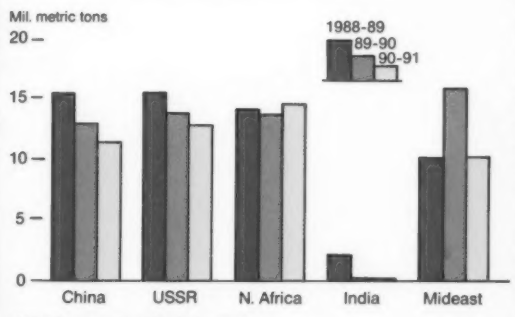
—Priscilla Glynn

World Wheat Production Has Soared in 1990/91 as U.S. Competitors and Customers Harvested Bumper Crops



1989/90 estimated, 1990/91 forecast.

These Ample Supplies Will Limit Worldwide Import Demand,



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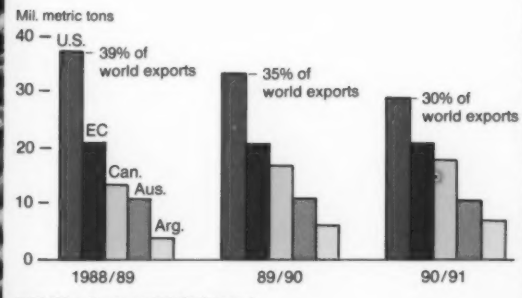
Whittling Total U.S. Exports



1989/90 estimated, 1990/91 forecast.

Based on USDA's mid-December *World Agricultural Supply and Demand Estimates* and *World Grain Situation and Outlook.*

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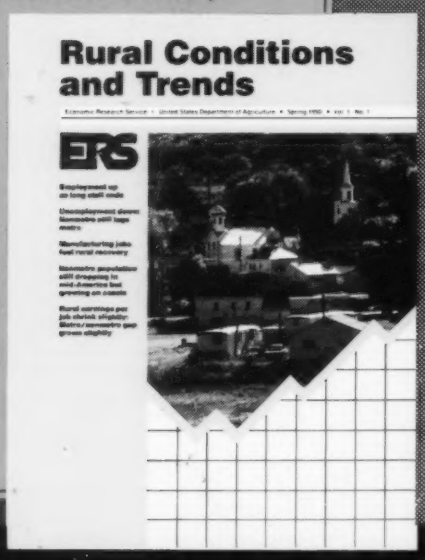
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